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MORE RECENT TRENDS IN INTERGENERATIONAL OCCUPATIONAL CLASS REPRODUCTION IN THE NETHERLANDS 1970-2004: EVIDENCE FROM AN EXPANDED DATABASE.

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Abstract

We update earlier analyses on trends in occupational class repraduction in the Netherlands since 1970. We extend published trend estimates by expanding the available database with recently (1999-2004) collected data that constitute about 30% of the new database. We also add more detail to the occupational class schema and the educational measure used in this new analysis. The conclusions about major trends are largely in line with our earlier findings. (A) The long-term trend towards more fiuidity in bivariate occupational class reproduction is confirmed. Despite the visual impression that the trend levels off, statistical tests do not show evidence af significant non-linearity. (B) The trend towards more fiuidity holds for the two ascriptive components of the status-attainment structure, i.e., the effect of father's class on completed education and the partial effect of father's class on respondent's occupational class. (C) In contrast ta previous analyses, we find evidence that the trend towards a weakening of the partial effect of education on occupational attainment has taken a tnrn: this relationship became considerably weaker between 1970 and 1985, but remained more or less at a constant level after 1985.

Introduction

In their contribution to the recent 'Social Mobility in Europe' project (Breen, 2004), Ganzeboom & Luijkx (2004) estimated trends in occnpational class reproduction in the Netherlands according to data collected between 1970 and 1999. Using a total of 35 data files with pertinent information on 20,770 men and 8,898 working women (and their fathers), classified in eight occupational class categories and four education categories, the authors drew the following conclusions from their bivariate and partial scaled-association models:

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1. There has been a consistent trend towards more fluidity in bivariate occupational reproduction for both men and working women. In a linear trend model, this trend was fonnd for global off-diagonal association to decline by ahout 1.6% per year for men and 1.1% for women. In the last period (1995-1999), social fluidity among men and women was about the same.
2. The linear trend in bivariate association towards more social fluidity held until the end of the period observed (1995-1999). Despite the presence of some fluctuation in the data, there is no indication of a flattening or reversal of the trend.
3. In an elementary status attainment model, with education intervening hetween father's class and respondent's elass, all three estimated components of the model showed trends towards more fluidity. This held not only – as expected – for the effect of father's class on educational attainment and the direct effect of father's class on respondent's class, but also for the partial association between education and elass destination. This last finding contradicts standard expectations from modernization theory that hold that, in modernizing societies, education becomes *more* important for occupational attainment. Ganzeboom & Luijkx (2004) attribute their finding to the decline of varianee in the educational distribution of the Dutch popnlation, they also hold this responsihle for the decline in inequality of educational opportunity (cf. Rijken, 1999) .
4. The eight occupational class categories were scaled with respect to their mobility chances much in line with their socio-economic status. However, classes I and II (the higher and lower "service classes") were very close in mohility chanees, while the remaining categories (III: routine non-manual workers, IVab: small self-employed, VI/VI: supervisory and skilled manual workers, VIIa: semi- and unskilled manual workers, and VIIb: farm workers) were regularly spaced from them and from one another. Self-employed farmers (IVc) were sealed fairly close to semi-skilled workers. This is as expeeted and confirms earlier findings (Ganzeboom & Luijkx, 1995).
5. The scaling of the four education categories was as expected: they were about evenly spaced, which implies that each category is distinct with respect to mobility ehances.

In their discussion, Ganzeboom & Luijkx (2004) point out that the findings are much in line with long-held theories of social stratification and trend expectations. Expecting that these trends would not occur in all the countries in the 'Social Mobility in Europe' project, they point to the large amount of data amassed as the main explanation why these trends arise so clearly in the Netherlands and not elsewhere. However, as it turns out, the findings for the Netherlands were replieated for most of the countries that participated in the 'Social Mobility in Europe' project, which confirms generalizations hy Ganzeboom, Luijkx, & Treiman (1989), who claimed that the then available evidence on published tables from 35 countries around the world showed a worldwide trend towards more social fluidity, with an average annual growth rate of 1%. Countries in the 'Social Mobility in Europe' project varied considerably with respect to the rate of change, with the Netherlands and Hungary at the high end, and Britain, Germany, and Israel being the only countries without significant change (Breen & Luijkx, 2004a, 2004b).

In this study, we extend the analyses reported by Ganzeboom & Luijkx (2004) in three ways. First, we add a significant portion of new data to the existing database. Nine new datasets have become available since the earlier analyses were conducted. Seven of these refer to the 1999-2004 period and are derived from recently collected high-quality voluminous surveys. Our effective dataset (men and women aged 25-64 with valid information on occupation, father's occupation, and education) has 54,665 cases, which constitutes a considerable growth over the data Ganzeboom & Luijkx (2004) had at their disposal. Together with the extended historical episode covered, this addition should add considerable power to the comparative analysis.

Second, we add more detail to the occupational class distribution used for both women and men, and their fathers. We bring back the distinctions between EGP categories V and VI, IVa and IVb, and IIIa and IIIb that were neglected in the earlier analyses because of cross-national considerations. We also separate the higher and lower service classes into a segment of professional workers (Ia and IIa) and a segment of managerial & administrative workers including proprietors (Ib and IIb), following Gerber & Hout (2004). Altogether, this creates 13 occupational categories. Unfortunately, the relevant distinctions cannot be upheld in all datasets that were used in the previous analyses: as a consequence, we had to drop one survey from the database used by Ganzeboom & Luijkx (2004).

Thirdly, we add one additional distinction in the educational measure used, by separating tertiary education into a university (WO) and a vocational college (HBO) branch.[1] Although these are parallel branches in the Dutch education system, the two can be conceived of as hierarchically ordered, HBO being a preparation for semi-professional and (higher and lower) managerial occupations, and WO mainly preparing for professional occupations. This distinction appears to be highly relevant for occupational attainment, in particular since we now separate professional from managerial workers in the occupational categories.

Our goal in this study is to determine whether the expanded database modifies the conclusions reached earlier, and if so, why. We expect that in particular the extension of the database with voluminous high-quality newer datasets will provide us with more powerful evidence than Ganzeboom & Luijkx (2004) could draw on. The expansion of the database with the more detailed occupational and educational measures is also expected to lead to a more valid representation of the stratification structure of the Netherlands and thus contribute to this same goal. The main issue is whether the trends that have been observed since 1970 (and are consistent with estimates of developments since the 1950s;

see Ganzeboom & De Graaf (1984) and Ganzeboom & Luijkx (1995)) continue in the 21st century. One may argue that there is no theoretical reason to believe that the trend towards more soeial fluidity will coutinue forever. The more plausible development is that these trends will level off to a certain minimum – which could be no association, but not a negative association. In addition, there are reasons to believe that some potentially important determinants of social reproduction have been on the rise again. This is true for the wider inequalities of the ineome distribution, in which the Netherlands has shared the worldwide trend toward more inequality since the 1980s (Ultee, Arts, & Flap, 2003: 96). Publie opinion relates this higher income inequality to the retraction of the welfare state, the increased fees for higher edueation, and the emergence of an ethnic underclass. These phenomena have emerged throughout the western world, and although there is little reason to believe that they have been more forceful in the Netherlands than elsewhere, it is possible that they have had an appreciable effect on the mobility regime.

Data

The data sources used for the present analyses are listed in the Appendix with some of their characteristic properties. The numbers provided refer to the same age group (25-64) that Ganzeboom & Luijkx (2004) used. We include not only currently employed women but also womeu who were employed in the past. In almost all surveys occupational informatiou is available on previous jobs when the respondents are currently not employed. For men in this age bracket, the employment rate is over 85%, and it makes little sense to distinguish between employed and non-employed. Most of the non-employed men (with valid occupation eodes) are iu short-term unemployment, early retirement, or other forms of recent withdrawal from the labour market. For women, this is qnite a different story. In the older surveys, only about 35% of the women is employed at the time of survey, and this grows to about 65% in the most recent ones. However, almost all women have held a job at some point – even in the early period – but for many women this may have been a considerable time before the survey was held. One can argue that trends in soeial fluidity among women can best be captured by looking only at employed women, as Ganzeboom & Luijkx (2004) did. However, this has the obvious disadvantage that only a selected group is considered, a selection that changes rapidly over time. This problem can be solved hy taking into account previous oecupations. The disadvantage of taking all women (with a valid measure of oecupation, previous or current) into the analysis is that the time of employment becomes vague. This is a weak point of the comparison of pooled cross-sections to begin with – as it is necessary to rely on the year of survey as the time measure. Instead of choosing between these two alternatives, we will conduct our analyses for both currently employed women and ever employed women.

Table 1: Class Structures for all men, women, and working women for seven five-year periods in the Netherlands (1970-2004)

	1970-4	1975-9	1980-4	1985-9	1990-4	1995-9	2000-4	Total
Fathers								
Ia: Higher Professionals	1.51	2.59	4.42	3.78	4.56	4.49	6.58	4.56
Ib: Higher Managers and Administrators	10.22	5.29	6.88	4.18	10.27	12.13	12.28	9.87
IIa: Lower Professionals	5.38	4.71	4.67	5.29	6.61	6.44	8.4	6.4
IIb: Lower Managers and Administrators	3.12	5.57	4.62	7.72	9.89	8.82	11.51	8.58
IIIa: Higher Routine Nonmanual (Clerical)	4.81	4.35	3.27	5.81	4.86	4.21	4.05	4.44
IIIb: Lower Routine Nonmanual (Sales & Service)	2.74	4.37	3.81	3.21	1.87	1.89	1.8	2.4
IVa: Small Proprietors with employees (1-10)	8.41	7.65	6.33	9.6	7.01	6.86	2.87	6.51
IVb: Small Proprietors without employees	8.66	7.3	8.03	3.74	4.17	4.19	2.49	4.52
V :Manual Supervisors	1.09	3.46	4.15	3.44	6.34	7.19	8.73	6.11
VI :Skilled Manual Workers	14.75	19.49	18.76	18.81	16.51	18.09	14.2	17.15
VIIa: Semi/Unskilled Manual Workers	17.69	16.7	19.34	19.92	15.2	14.62	16.09	16.32
VIIb: Farm Workers	6.56	4.64	3.97	3.44	2.69	2.43	2.0	2.97
IVc: Selfemployed Farmers	15.06	13.88	11.77	11.06	10.02	8.65	9.01	10.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men								
Ia: Higher Professionals	4.51	7.91	8.88	8.47	10.62	11.44	14.92	10.52
Ib: Higher Managers and Administrators	11.7	10.34	7.4	10.23	8.76	12.46	14.2	11.17
IIa: Lower Professionals	7.83	10.44	12.43	11.68	14.02	13.65	14.07	12.77
IIb: Lower Managers and Administrators	7.3	11.58	11.2	12.25	15.12	13.09	12.81	12.64
IIIa: Higher Routine Nonmanual (Clerical)	9.03	4.44	5.16	5.83	5.97	6.56	5.39	6.0
IIIb: Lower Routine Nonmanual (Sales & Service)	3.63	3.65	4.78	3.26	2.91	3.07	2.9	3.26
IVa: Small Proprietors with employees (1-10)	4.69	2.59	2.58	3.62	3.0	1.99	1.59	2.57
IVb: Small Proprietors without employees	4.78	3.81	2.62	3.59	1.78	1.64	1.05	2.3
V : Manual Supervisors	2.27	8.92	7.02	7.56	8.01	7.2	6.92	7.2
VI :Skilled Manual Workers	19.41	15.49	17.37	13.23	12.46	12.71	10.85	13.47
VIIa: Semi/Unskilled Manual Workers	16.55	13.63	15.26	15.94	13.13	12.89	12.13	13.68
VIIb: Farm Workers	2.2	1.7	1.35	0.99	0.98	0.92	0.82	1.11
IVc: Selfemployed Farmers	6.08	5.48	3.97	3.36	3.25	2.38	2.35	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Women								
Ia: Higher Professionals	2.16	3.57	1.88	3.5	4.09	5.06	7.64	4.95
Ib: Higher Managers and Administrators	3.2	3.22	1.21	3.17	2.93	4.45	5.22	3.89
IIa: Lower Professionals	17.7	18.55	15.56	16.23	22.27	20.99	20.68	19.98
IIb: Lower Managers and Administrators	0.85	6.08	5.94	9.79	9.14	9.21	11.1	9.12
IIIa: Higher Routine Nonmanual (Clerical)	25.4	20.12	22.22	23.0	26.88	24.5	21.36	23.63
IIIb:Lower Routine Nonmanual (Sales & Service)	13.38	20.15	22.37	17.92	13.69	17.65	16.28	17.08
IVa: Small Proprietors with employees (1-10)	3.49	0.72	0.72	2.12	1.48	0.84	0.98	1.17
IVb: Small Proprietors without employees	4.99	3.95	2.9	4.74	2.22	1.84	1.59	2.41
V :Manual Supervisors	0.35	2.02	0.87	0.92	0.65	0.92	0.63	0.83
VI :Skilled Manual Workers	6.61	4.92	7.15	4.95	4.58	2.75	2.91	3.89
VIIa: Semi/Unskilled Manual Workers	19.51	14.24	18.21	12.05	10.42	10.51	10.22	11.6
VIIb: Farm Workers	1.05	1.25	0.29	0.56	1.1	0.64	0.96	0.79
IVc: Selfemployed Farmers	1.31	1.2	0.68	1.03	0.55	0.65	0.44	0.66
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Working Women								
Ia: Higher Professionals	2.56	4.43	3.62	4.47	5.66	6.53	9.93	6.73
Ib: Higher Managers and Administrators	4.74	3.9	1.8	3.13	3.81	5.12	6.53	4.85
IIa: Lower Professionals	21.32	21.3	22.3	20.72	26.28	23.45	24.1	23.53
IIb: Lower Managers and Administrators	0.55	5.9	7.6	9.14	11.24	9.87	12.39	10.13
IIIa: Higher Routine Nonmanual (Clerical)	24.18	20.2	22.3	22.92	25.32	24.05	20.79	22.99
IIIb: Lower Routine Nonmanual (Sales & Service)	11.64	19.8	19.8	13.41	11.08	15.49	12.8	14.24
IVa: Small Proprietors with employees (1-10)	5.08	0.95	1.29	2.91	1.5	1.05	1.14	1.44
IVb: Small Proprietors without employees	5.91	4.86	4.4	6.56	2.16	2.23	1.47	2.8
V :Manual Supervisors	0.27	1.92	0.65	0.57	0.55	0.76	0.75	0.74
VI :Skilled Manual Workers	5.08	2.51	4.01	4.05	2.27	1.96	1.97	2.44
VIIa: Semi/Unskilled Manual Workers	15.79	11.91	10.48	10.53	8.65	8.09	6.72	8.56
VIIb: Farm Workers	0.82	0.74	0.39	0.51	0.8	0.6	0.95	0.71
IVc: Selfemployed Farmers	2.06	1.69	1.42	1.09	0.67	0.82	0.45	0.83
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

When available, we add information on the response rates for each of the surveys listed in the Appendix. Dutch data have been criticised in the past, because of the steeply decreasing response rates, from around 70% in 1970 to 45% in 1999. It may be expect that the non-response is selective with respect to low social status, and that non-response is particularly prevalent among the socially mobile. We expect that the increased non-response in surveys may have led to an underestimation of the underlying trends, but have no evidence to substantiate this expectation. Note that two of the newly added data files (the Amenities and Services Utilization Survey 1999 and the European Social Survey 2002) have relatively high response rates, of around 65%. This improvement is due to major investments in recall by interviewers in the two surveys (Stoop, 2005). It remains to be seen whether this will make a difference to the estimated mobility patterns.

Descriptive analyses

Table 1 shows the marginal class distributions for men, women and working women, and their fathers according to the 13-category typology. Note that some of the newly introduced distinctions cover only small portions of the sample, in particular for men and fathers in class IIIb, and for women in class V. Despite these low numbers, the relative distribution of the classes follows a very regular and familiar pattern over time: a decrease in farm work and in the number of self-employed is compensated by rising numbers of professional and managerial workers. Note that the speed of increase does not differ greatly between the newly distinguished professional and managerial segments of the two highest classes. Claims that professional work (knowledge workers) has recently grown at the expense of other service class categories must be regarded as unfounded based on these observations.

Despite these developments in the class structure, there is not much of a development in overall mobility in the Netherlands, but if there is one, it is towards more mobility (with a slight reverse for the last period: see Table 2).

Loglinear models

In order to characterise the pattern of association in the mobility tables and to model the historical trends, we model the full set of contiguous odds ratios in a table:

$$\theta_{ij} = \frac{f_{ij} * f_{(i+1)(j+1)}}{f_{(i+1)j} * f_{i(j+1)}}, \tag{1}$$

where θ_{ij} is the odds ratio and f_{ij} represents the four adjacent (observed) frequencies in origin (row) i and destination (column) j. It is well known that the full set of (in this case 144) contiguous odds ratios constitutes a complete account of the association pattern, the so-called saturated model or unconstrained association model. Using loglinear models, we constrain the odds ratios in the saturated model to a more parsimonious set in order to find a sociologically more meaningful and statistieally more powerful account of the data. We constrain the pattern of odds ratios in two ways. First, we constrain patterns between tables to test for trends (without using within-tahle constraints). Second, we constrain patterns within tables, in order to find a parsimonious and interpretable model of social mobility flows.

Table 2: *Percentage mobile for men, women, and working women for seven five-year year periods in the Netherlands (1970-2004)*

	Men (%)	Women (%)	Working Women (%)
1970-4	74.6%	85.4%	84.5%
1975-9	78.8%	85.9%	86.8%
1980-4	80.4%	86.3%	86.3%
1985-9	81.0%	86.8%	87.3%
1990-4	81.8%	88.8%	88.7%
1995-9	83.4%	90.2%	90.3%
2000-4	83.5%	87.9%	88.4%

Between-table constraints: Unconstrained association models

In the following models, the within-table pattern of odds ratios is not constrained, and constraints are only used to investigate between-table differences. In particular, we compare Constant Social Fluidity, Trendless Fluctuation, Linear Trend, and Curvilinear Trend. In the Constant Social Fluidity model, there are no differences in odds ratio patterns between tables:

$$\theta_{ijk} = \theta_{ij(k+1)}, \tag{2}$$

where i indicates rows (origins), j indicates columns (destinations), and k indicates tables (periods).

In Trendless Fluctuation, the (log) odds ratios in tables k differ from each other by a multiplicative factor:

$$\theta_{ijk} = \theta_{ij}^{\beta_k}$$
$$\ln\theta_{ijk} = \beta_k * \ln\theta_{ij}, \tag{3}$$

where $\beta_1 = 1$. This model is often referred to as the Uniform Difference (Unidiff) Model (Erikson & Goldthorpe, 1992) or Log-Multiplicative Layer Model (Xie, 1992). Sociologically, it represents the idea of trendless fluctuation: there are significant over-time differences, but they do not follow a simple trend.
In the Linear Trend model, these over-time differences follow a linear function. This is accomplished by constraining the β_k parameters:

$$\beta_k = 1 + \beta Y, \tag{4}$$

where Y is the number of years since 1970. The test of whether there are significant differences between Constant Fluctuation and Linear Trend indicates whether there are significant deviations from a linear trend. We also allow β_k to develop curvilinearly over time using the following constraint:

$$\beta_k = 1 + \beta Y + \gamma Y^2. \tag{5}$$

Within-table constraints: Scaled association models

While unconstrained association models are powerful specifications used to detect historical trends, they provide no information about the pattern of social mobility itself. A class of models that can be used to summarise the association concisely has been proposed by Goodman (1979): the scaled association models. The starting point of such models can be found in the very restricted uniform association model that assumes all contiguous (log) odds ratios in a table to be identical:

$$\ln\theta_{ij} = \varphi. \tag{6}$$

For the uniform association model, a single degree of freedom is used to characterise all odds ratios in a table, which is a parsimonious but often too restrictive assumption to fit the data. The stringent assumption can be meaningfully relaxed in three ways:

(1) By exempting diagonal cells from the association pattern by fitting distinct diagonal parameters δ_{ii}. Exempting diagonal cells (and separately modelling them) parallels the assumption that staying in father's class (i.e., class inheritance) is not necessarily governed by the same contingencies as the pattern of mobility for the mobile. The diagonal density parameters δ_{ii} represent within-class immobility over and above the immobility uniformly inherent in all categories.[2] In previous analyses, these patterns were found to be class-specific.

(2) By scaling the distances between the row (μ_i) and column (v_j) categories:

$$\ln\theta_{ij} = \varphi\ (\mu_{i+1} - \mu_i)(v_{j+1} - v_j)\ , \tag{7}$$

where (μ_i) and (v_j) are scaling parameters, subject to the constraints of mean 0 and, in this case, variance 13 (the number of origin and destination categories),[3] while φ is the scaled uniform association parameter that describes the association throughout the table, conditional upon the scaling parameters.

(3) As a useful special restriction in this model, equal scalings can be introduced for rows and columns:

$$\mu_i = v_i, \tag{8}$$

i.e., rows and columns are identically scaled. This not only leads to a more parsimonious model, but has the useful sociological interpretation that row and columns constitute the same hierarcby with respect to mobility chances.

Taken together, these three specifications constitute the Quasi Equal Scaled Association model, or the Goodman/Hauser model after its principal inventors (Goodman, 1979; Hauser, 1984a, 1984b). A limited number of degrees of freedom are used in the model to characterise the pattern of association within tahles. In our 13*13 tahles, the 144 elementary odds ratios are summarized using thirteen scaling parameters (equal for row and columns), one over-all sealed uniform association parameter, and thirteen diagonal cell parameters.

Scaled association models can be used to investigate over-time developments. We constrain μ_i and v_j to be the same for the different period tables. We model differences over time in the diagonal density parameters (δ_{iik}) and in the scaled association parameter (φ_k) using the same over-time constraints as introduced for the unconstrained association models. Regarding the diagonal effects (φ_k), we assume that the development over time is the same for each diagonal cell i, hut that the density per cell i differs (a "uniform" development):

$$\begin{aligned} \delta_{iik} &= \delta_{ii} * \beta_k \\ \delta_{iik} &= \delta_{ii} * (1 + \beta Y) \\ \delta_{iik} &= \delta_{ii} * (1 + \beta Y + \gamma Y^2), \end{aligned} \tag{9}$$

for, respectively, a (uniform) trendless, a linear, and a curvilinear development of the diagonal densities. We also assume a linear and curvilinear development for the scaled association parameter (φ_k)

$$
\begin{aligned}
\varphi_k &= \varphi * (1 + \beta Y) \\
\varphi_k &= \varphi * (1 + \beta Y + \gamma Y^2).
\end{aligned}
\tag{10}
$$

Fit measures

As our primary measure for goodness of fit, we use the conventional log-likelihood ratio χ^2-statistic (L^2 or Deviance). Note that L^2 is biased in sparse tables, i.e., tables in which many of the observed counts are 0 or 1, as is the case in this study. For that reason, we restrict our interpretation to the ***differences*** between the statistics, not their absolute values (Wong, 2001).

We also present and use the ***bic*** (Bayesian Information Coefficient) statistic introduced to the social sciences by Raftery (1986). Raftery argues that comparative mobility studies often have large sample sizes, which make it difficult to find models that fit the data according to conventional probability levels. The ***bic*** coefficient allows the researcher to choose the most plausible model from among several non-fitting models. As can be seen below, many of our L^2-statistics nominally fit the data and we use ***bic*** to choose the most plausible fitting model.

As a last fit measure, we deploy the index of dissimilarity Δ to compare the fitted or expected distribution across all the cells of the table with the observed distribution. We present Δ as the percentage of cases misclassified.

All our models are estimated using LEM (Vermunt, 1997). This program provides a versatile tool to model both bivariate and partial association models.

Bivariate social mobility patterns

Table 3 presents the fit statistics for the bivariate association models, i.e., the father-by-respondent occupation distribution. The table reports results for the father-by-son distribution, and the father-by-daughter distribution for all women, as well as for women employed at the time of survey. The degrees of freedom (*df*) associated with a model are reported in the second column and are the same irrespective of the group involved. The next columns report L^2, corresponding *p*-value, Δ, and ***bic***. The L^2 can be used for classical significance testing. A more negative ***bic*** suggests a more plausible model in terms of Bayesian expectations.

The data modelled are 13-by-13-by-7 counts. In Panel A, we present the unconstrained association models. Model A1 is the ritual conditional independence model that assumes no association between Origin and Destination in all seven periods. The L^2 statistic shows that this model is far from fitting the data, despite a negative ***bic*** value that suggests that conditional independence is still to be preferred over the saturated model. The Constant Social Fluidity model A2 adds a common Origin-by-Destination term to the model, which consumes 144

Table 3: Fit statistics for bivariate association models for O (origin class) and D (destination class), men. women and working women, seven five-year periods (best fitting model according to bic in boldface)

Type of model	df	Men L^2	Men p	Men Δ	Men bic	Women L^2	Women p	Women Δ	Women bic	Working Women L^2	Working Women p	Working Women Δ	Working Women bic
Panel A: Unconstrained association models													
A1 Conditional independence	1008	7807.8	0.000	18.58%	-2581.2	3905.9	0.000	13.75%	-6291.2	2600.4	0.000	14.04%	-7076.9
A2 Constant social fluitidy	864	1194.3	0.000	6.53%	-7710.5	1032.8	0.000	5.88%	-7707.6	961.3	0.011	7.10%	-7333.5
A3 Trendless fluctuation	858	1044.1	0.000	6.08%	-7798.9	983.8	0.002	5.69%	-7695.8	924.2	0.058	6.96%	-7313.0
A4 Linear trend	863	1047.1	0.000	6.09%	-7847.4	990.0	0.002	5.72%	-7740.2	929.0	0.059	7.00%	-7356.2
A5 Curvilinear trend	862	1046.2	0.000	6.09%	-7838.0	990.0	0.002	5.72%	-7730.1	928.5	0.057	6.99%	-7347.1
Panel B: Scaled association models													
B1 Trendless association, free diagonals	899	1670.3	0.000	7.12%	-7595.2	1271.8	0.000	6.04%	-7822.6	1130.9	0.000	7.16%	-7499.9
B2 Trendless association, constant diagonals	977	1817.6	0.000	8.04%	-8251.8	1371.2	0.000	6.68%	-8512.3	1227.5	0.000	8.00%	-8152.2
B3 Trendless association, trendless diagonals	971	1773.8	0.000	7.91%	-8233.7	1360.3	0.000	6.66%	-8462.5	1215.6	0.000	7.95%	-8106.4
B4 Trendless association, linear diagonals	976	1779.1	0.000	7.96%	-8280.0	1365.2	0.000	6.67%	-8508.1	1218.9	0.000	7.99%	-8151.1
B5 Trendless association, curvilinear diagonals	975	1775.8	0.000	7.93%	-8273.0	1364.1	0.000	6.67%	-8499.2	1218.6	0.000	7.98%	-8141.8
B6 Linear association, linear diagonals	981	1783.3	0.000	7.95%	-8327.4	1373.2	0.000	6.72%	-8558.7	1224.6	0.000	8.03%	-8193.4
B7 Curvilinear association, linear diagonals	980	1780.8	0.000	7.95%	-8319.5	1372.9	0.000	6.72%	-8540.9	1224.6	0.000	8.03%	-8183.8

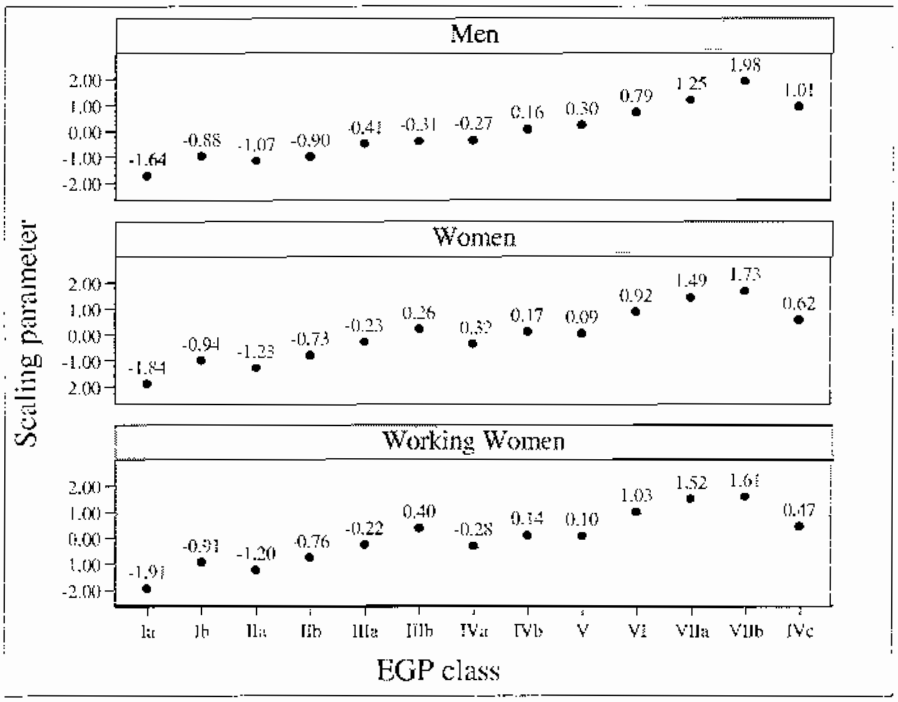
degrees of freedom. Despite the major drop in Deviance, the model does not fit the data by conventional standards, although it comes close for working women. In the Trendless Fluctuation model A3, the Origin-by-Destination interaction between the seven periods differs by a single multiplicative constant per table. For men, this constitutes a significant improvement both by classical standards and by *bic*; for (working) women, there is only improvement by classical standards. The Linear Trend model A4 constrains the between period differences to be linear with time. For all three groups, this does not result in a significant loss of fit relative to model A3 aud it confirms that a linear trend model that is to be preferred over the Constaut Social Fluidity model A2 by all standards. In the Curvilinear Trend model A5, the assumption of linearity is relaxed once again using a qnadratic specification. In none of the three instances does this lead to a significautly improved fit. The clear conclusion from this comparison of models is that historieal changes exist in the intergenerational association and that these changes follow a simple linear trend. There is no indication that the trend diverges from linearity, despite the addition of much newer and voluminous data to the database.

Panel B reports a similar set of models, but this time using the Quasi Equal Scaled Association model as its kernel. Models B1-B5 report the fit statistics when all diagonal cells are uuconstrained (B1), are constrained to be equal (B2), are constrained to differ by a multiplicative constant per table (B3), or are constrained to he different by a single linear (B4) or a curvilinear trend parameter (B5). The global association coefficient (φ_k) remains unconstrained in all five models. While by classical standards these models fit the data worse than the Trendless Fluctuation model A3, they are superior in terms of *bic*. For men, the Linear Trend model (B4) for tbe diagonal densities proves to be the best representation: for (working) women, the no-trend specification (B2) is marginally better by the *bic* standard, although not by classical standards. The following two models (B6 and B7) constrain tbe functional form of the trend in the global association parameter (φ_k). The four assumptions (different by table, constant, linear trend, and curvilinear trend) can be combined with all five possible specifications for the diagonal cells. This would generate 20 models to compare, but we report only models for the diagonal specification (linear trend) tbat we find to be optimal. For men and for (working) women, the combination of a linear trend on tbe diagonal with a linear off-diagoual trend (B6) turns out to be the best fitting model over-all. For both men and (working) women, the linear trend model B6 is superior to the curvilinear trend model B7 by both classical and Bayesian standards – there is no indication of trend reversal or even trend deceleration in the data.

Time-constant parameters

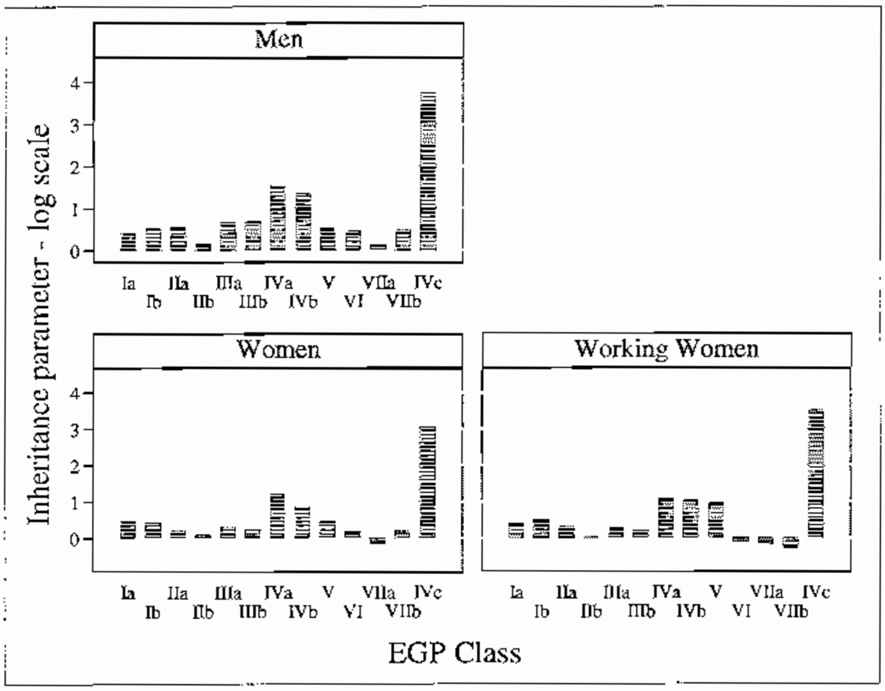
Figure 1 depicts the time-constant ingredients of the scaled association models: the scaling parameters (Fignre 1a) and the baseline diagonal densities (Figure 1b) for the class categories. Both sets of parameters are taken from model B2, in which the diagonals are time-constant. However, the pattern of the parameters varies very little over the estimated models. The parameters are presented for all three selections of the data.

Figure 1a: *Estimated scaling parameters for EGP classes*
Men, women, and working women separately, against class number



Taken together, the category scalings constitnte a *mobility dimension.* Given that the diagonal densities are modelled separately, the position of the categories on this dimension is proportional to their relative probabilities to be mohile into or mobile from the other categories. It is important to note that all of the newly distingnished class categories are well separated on the mobility dimension. This is particularly true for the professional and managerial/administrative subdivision of the EGP classes I and II, which appeared to be rather undifferen-

Figure 1b: *Estimated diagonal parameters for EGP classes*
Men, women, and working women separately, against class number



tiated in the analysis of Ganzeboom & Luijkx (2004). In the present analyses, in particular class Ia of the higher professionals is clearly separated from all the others, implying that mobility into and from this category is by far the most difficult, for both men and (workiug) women. Closest to them (although well separated) are *not* the higher managers and administrators (Ib), hut the lower professionals (IIa). The two professional classes are then followed by the two newly distiuguished categories of higher and lower managers/administrators (Ib and IIb). All together, this would suggest that it is better to merge the two professional classes and the two managerial classes when using a more coudensed class schema.

The distauces between the four professioual and managerial categories and the rest is particularly large (as was also observed by Ganzeboom & Luijkx (2004)), but this should not distract us from the distance iu mobility ehances that arises between the newly distinguished subdivision of routine non-manual workers, in particular in the case of women. Routine clerical workers (IIIa) are scaled close to small proprietors with employees (IVa) and clearly fall into the non-manual side of the continuum, whereas routine sales and services workers (IIIb) are much closer to the manual side of the continuum. We also find a clear distinction between the small self-employed with employees (IVa) and own-account workers without employees (IVb). For all three selections of the data, the positions of the self-employed without employees (IVb) and the manual supervisors (V) are particularly close, while a relatively large distance arises between the manual supervisors (V) and the class of skilled workers (VI), two categories that are routinely merged in the use of EGP categories. The gap is larger for women than for men, but it should be kept in mind that very few women actually occupy these positions to begin with.

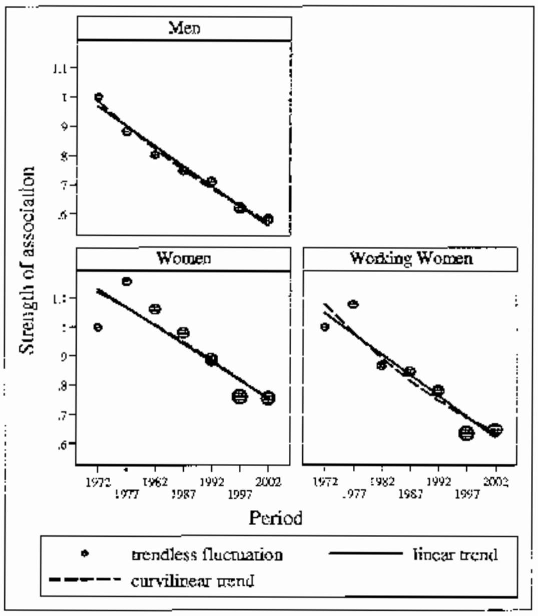
Skilled workers (VI), semi- and unskilled workers (VIIa), and farm workers (VIIb) are about equally spaced on the mobility dimension, with self-employed farmers (IVc) taking a position in between skilled and semi/unskilled workers. To reiterate the point, this means that farm children who leave their father's enterprise have on average destinations that are in between the destinations of skilled and unskilled workers; alternatively, it means that the – very few – men and women who are mobile into farming (i.e., they come from non-farming backgrounds) are on average from such origins.

The diagonal densities are presented in Figure 1b: the probability that men and (working) women will stay in the same class category as their father, over and above the immobility implied by the mobility dimension. A first point to note about the parameters is that the general level is somewhat higher for men than for women. In other words, women are somewhat more likely to be mobile than men. Second, we find a familiar pattern with respect to most of the other coefficients: by far the most immobile category is that of self-employed farmers (IVc), followed at a considerable distance by the two categories of the small self-employed (IVa and IVb). The over-all lowest inheritance scores are obtained for semi/unskilled workers (VIIa). For women, we also find a particularly high immobility score for manual supervisors (V), but given the low number of women observed in this category, we will not speculate on a substantive explanation for this finding. Most of the other diagonal densities seem to hover around the same level of 0.30/0.40, which implies around 35%-50% excess density on the diagonal. The most striking deviation in this pattern is the low inheritance of the lower managers and administrators (IIb), who seem to be a particularly transitory class in an intergenerational perspective. Apparently, fathers in this class build up few resources that can be transferred directly to their children.

Trend parameters

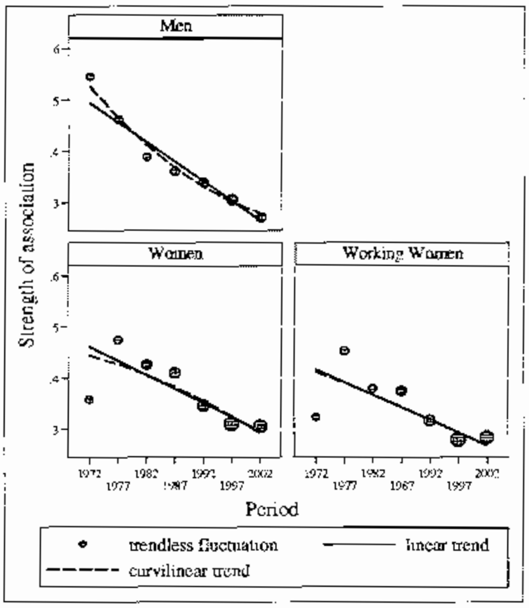
After evaluating the time-constant parameters, we turn to the trend parameters in the models to assess the historical development in social mobility in the Netherlands between 1970 and 2004. Figure 2 displays the estimated coefficients for three of the association models: the trendless fluctuation model, the linear trend model, and the curvilinear trend model. Figure 2a reports the trends in the unconstrained association models (uniform difference parameters β_k), and Figure 2b reports the scaled association models (the scaled association parameter φ_k). Despite some fluctuations in the estimated time-specific points, the substantive conclusion from all these figures is identical: there is a clear and continued trend towards more social fluidity, for both men and (working) women. Despite the visual impression that the trends level off somewhat, it is important to note that the reported statistical analyses show no convincing evidence for such a conclusion. It is also important to observe that the data point for the 2000-2004 period – these are new data relative to the data reported by Ganzeboom & Luijkx (2004) – does not support the impression of a slowed-down trend, certainly not for men. For (working) women, the new data point is at about the same level as five years earlier, but given the somewhat wider dispersion in estimates for women than for men, there is little reason to interpret this as trend reversal.

Figure 2a: *Trends in unconstrained association models for bivariate Origin-Destination Men, women, and working women separately*



The trends in Figure 2a for men, women, and working women cannot be compared directly, because each has a different point of reference, but the trends in Figure 2b are in the same metric and can be compared. The important finding

Figure 2b: *Trends in scaled association models for bivariate Origin-Destination Men, women, and working women separately*



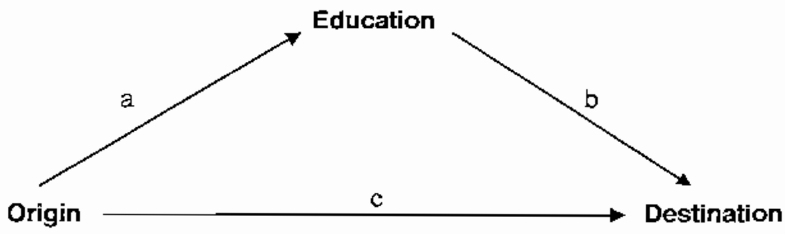
here is that the trend for women is slower than that for men, and that the two trends have converged to about the same level in the most recent data: while the mobility regime for women used to be more fluid than that for men, both have now reached about the same level of fluidity. The last finding to be mentioned is the linear effect in the decline of the inheritance for men: about 35% over the 35 year period (as mentioned earlier, the diagonal effects for all women and working women were constant over the whole period investigated).

Ascription and achievement in social mobility patterns

In the second part of our analysis, we generalise the unconstrained and scaled association models to the multivariate context of an elementary status-attainment model. In line with Blau & Duncan (1967), it is useful to think of occupational mobility as being composed of two pathways (see Figure 3):

1. Fathers transfer their occupational status to their children via education; i.e., social background influences educational attainment (path **a**; relationship OE), and educational attainment to a large extent determines occupational outcomes (path **b**; relationship ED|O).

Figure 3: *Basic Status Attainment Model*



2. Fathers also transfer their occupational status position directly to their children (path **c**; relationship OD|E), partly through the immediate transfer of proprietorship and other employment statuses, and partly by providing their sons and daughters with occupational aspirations, access to employment via networks, etc.

This simple decomposition of intergenerational occupational reproduction into a direct (**c**) and an indirect pathway (**a*b**) leads to an important consequence for our expectations about historical trends in intergenerational occupational mobility as found in the first part of the analysis. Under the general expectation of increasing achievement and decreasing ascription – as derived from standard modernization theory (Blau & Duncan, 1967; Treiman, 1970) – no definitive prediction can be derived on the total relationship (Boudon, 1974). Declining ascription would be reflected in weakening (**a**) and (**c**) relations, but increasing achievement values and meritocratic selection in the labour market would make relationship (**c**) stronger. From the findings presented in the last section, it is clear that there is an overall (total) trend towards more social fluidity. In this part of the analysis, we decompose this by analysing a set of partial association models to estimate trends and association patterns for the elementary status attainment model in a way congruent with Blau and Duncan's use of causal models.

We analyse the cross classification of Origin-by-Education-by-Destination-by Period having 13-by-5-by-13-by-7 categories. Applying a 'modified path analysis' (Goodman, 1973), we estimate the parameters for the three relationships OE, ED|O, and OD|E simultaneously. The causal order of the variables dictates that the OE relationship is modelled without conditioning on the causal posterior variable D, i.e., within the three-way Origin-by-Education-by-Period table (collapsed over Destination), while the other two relationships are modelled within categories of the third variable within the four-way Origin-by-Education-by-Destination-by Period table.

The unconstrained association models are presented in Panel A of Table 4. The constant social fluidity model A0 constitutes the benchmark model of no historical change, i.e., the OE, ED|O, and OD|E associations are constant over the seven periods. Note that for men this model almost fits the data by classical standards – recall, however, that the absolute value of L^2 cannot be trusted to be properly distributed as a χ^2 statistic –, while for (working) women this model actually fits. The trendless fluctuation model A1 expresses the other extreme: all three relationships are assumed to be trendless, with no over-time constraints: the OE, ED|O, and OD|E associations are 'unidiffed' over the seven five-year periods. For men, model A1 is superior to A0, but this is not the case for (working) women, at least when our conclusion is based on the *bic* statistics.

Models A1a-A1c constrain one of the partial relationships to develop linearly over time (the other two being trendless). In terms of *bic*, the linear constraint on OE and OD|E fares better for men and women than model A1. but this is not the case for the linear constraint on ED|O (for working women, all three linear constraints fare better). Model A1d imposes a linear trend constraint on all three relationships of the status attainment model. This model fits better than models A1, A1a, A1b, and A1c. This is clear evidence of historical changes in the status attainment parameters.

Models A2a-A2c compare to the model of trendless fluctuation, A1, constraining each of the three components to be constant over time and leaving the other two trendless. For men, none of these models fit the data better than any of their linear counterparts A1a-A1c in terms of *bic* or L^2. For all women, model A2c with constant ED|O fares slightly better than model A1c in terms of *bic*, and for working women model A2a with constant OE also fares better than model A1a. The conclusion is that, certainly for men, there seems to be no need to consider the no-trend hypothesis any further.

Finally, in Panel A, models A3a-A3c are used to consider a curvilinear trend in one of the components, leaving the other two linear, while in model A3d all three components are curvilinear. For men and (working) women, model A3b fits the data best in terms of *bic*. The *bic* value is also the lowest of all models in Panel A. Our conclusion, therefore, is that the OE and OD|E relationships develop linearly over time and that the ED|O relationship shows a curvilinear relation.

In Figures 4a-c, we display the association coefficients for trendless fluctuation, linear trend, and curvilinear trend for the OE, ED|O, and OD|E relationships. In these figures, the first observation (1970-4) serves as the point of reference. As can be seen, there are trends towards more fluidity in all three (partial) relationships, although for the ED|O relationship there is a curvilinear trend that leaves us with a more or less L-shaped development: there is a clear levelling off from the mid-1980s. This last conclusion is a revision of the conclusion drawn by Ganzeboom & Luijkx (2004).

Table 4: Fit statistics for partial association models for O (origin class), D (destination class) and E (education). Men, women, and working women,seven five-year periods (best fitting model according to bic in boldface)

			Men				Women				Working Women			
	Type of Model	df	L^2	p	Δ	bic	L^2	p	Δ	bic	L^2	p	Δ	bic
Panel A: Unconstrained association models														
A0	Constant social fluidity	5472	5783.1	0.002	13.52%	-50614.0	4694.3	1.000	12.55%	-50661.1	4075.0	1.000	15.13%	-48458.7
A1	Trendless fluctuation	5454	5489.7	0.364	13.06%	-50721.8	4570.8	1.000	12.27%	-50602.5	4004.4	1.000	14.99%	-48356.4
A1a	Linear OE; trendless ED|O OD|E	5459	5498.7	0.350	13.09%	-50764.4	4575.2	1.000	12.27%	-50648.7	4006.0	1.000	14.99%	-48402.8
A1b	Linear OD|E; trendless OE ED|O	5459	5493.9	0.367	13.07%	-50769.2	4577.1	1.000	12.29%	-50646.8	4008.5	1.000	14.99%	-48400.3
A1c	Linear ED|O; trendless OE OD|E	5459	5573.1	0.138	13.16%	-50690.0	4627.2	1.000	12.39%	-50596.7	4031.9	1.000	15.07%	-48376.9
A1d	Linear OE ED|O OD|E	5469	5585.9	0.132	13.19%	-50780.2	4637.2	1.000	12.41%	-50687.9	4037.8	1.000	15.06%	-48467.0
A2a	Constant OE; trendless OD|O ED|O	5460	5529.5	0.252	13.16%	-50743.9	4593.8	1.000	12.31%	-50640.2	4013.1	1.000	15.02%	-48405.3
A2b	Constant OD|E; trendless OE ED|O	5460	5583.6	0.119	13.21%	-50689.8	4605.9	1.000	12.36%	-50628.2	4037.4	1.000	15.02%	-48381.1
A2c	Constant ED|O; trendless OE OD|E	5460	5642.2	0.042	13.24%	-50631.2	4632.9	1.000	12.40%	-50601.1	4032.0	1.000	15.07%	-48386.5
A3a	Curvilinear OE; linear ED|O OD|E	5468	5585.8	0.130	13.19%	-50770.0	4635.1	1.000	12.40%	-50679.8	4037.6	1.000	15.06%	-48457.7
A3b	Curvilinear ED|O; linear OE OD|E	5468	5528.8	0.279	13.13%	-50827.0	4597.3	1.000	12.33%	-50717.6	4017.4	1.000	15.00%	-48477.9
A3c	Curvilinear OD|E; linear OE ED|O	5468	5585.6	0.131	13.19%	-50770.2	4636.9	1.000	12.40%	-50678.0	4037.4	1.000	15.07%	-48457.9
A3d	Curvilinear OE ED|O OD|E	5466	5528.6	0.273	13.13%	-50806.6	4593.8	1.000	12.33%	-50700.9	4017.2	1.000	15.01%	-48458.9
Panel B: Scaled association models														
B1a	Trendless associations - free diagonals	5586	6935.7	0.000	15.26%	-50636.4	5778.6	0.035	14.90%	-50730.1	4823.4	1.000	17.75%	-48804.7
B1b	Trendless associations - trendless diagonals	5658	7035.2	0.000	15.49%	-51278.9	5864.1	0.027	15.10%	-51372.9	4909.2	1.000	17.97%	-49410.1
B1c	Trendless associations - curvilinear diagonals	5662	7038.0	0.000	15.50%	-51317.3	5868.0	0.027	15.10%	-51409.5	4911.3	1.000	17.97%	-49446.4
B1d	Trendless associations - linear diagonals	5663	7041.7	0.000	15.50%	-51323.9	5868.8	0.028	15.10%	-51418.8	4911.3	1.000	17.97%	-49456.0
B1e	Trendless associations - constant diagonals	5664	7078.8	0.000	15.57%	-51297.1	5877.0	0.024	15.13%	-51420.7	4921.4	1.000	18.01%	-49455.5
B2a	Linear OE; trendless ED|O OD|E - linear diagonals	5668	7053.1	0.000	15.52%	-51364.0	5873.6	0.028	15.12%	-51464.6	4912.7	1.000	17.97%	-49502.6
B2b	Linear OD|E; trendless OE ED|O - linear diagonals	5668	7047.3	0.000	15.52%	-51369.8	5876.8	0.026	15.12%	-51461.4	4914.2	1.000	17.98%	-49501.1
B2c	Linear ED|O; trendless OE OD|E - linear diagonals	5668	7120.3	0.000	15.57%	-51296.8	5917.9	0.010	15.17%	-51420.3	4936.9	1.000	18.02%	-49478.4
B2d	Linear OE ED|O OD|E - linear diagonals	5678	7141.2	0.000	15.62%	-51379.0	5928.3	0.010	15.21%	-51511.0	4940.7	1.000	18.03%	-49570.6
B3a	Curvilinear OE; linear ED|O OD|E - linear diagonals	5677	7140.7	0.000	15.62%	-51369.2	5926.5	0.010	15.21%	-51502.7	4940.2	1.000	18.04%	-49561.6
B3b	Curvilinear ED|O; linear OE OD|E - linear diagonals	5677	7085.0	0.000	15.56%	-51424.9	5895.1	0.021	15.18%	-51534.1	4923.4	1.000	18.00%	-49578.4
B3c	Curvilinear OD|E; linear OE ED|O - linear diagonals	5677	7135.1	0.000	15.61%	-51374.8	5928.2	0.010	15.21%	-51501.0	4940.7	1.000	18.03%	-49561.1
B3d	Curvilinear OE ED|O OD|E - linear diagonals	5675	7081.8	0.000	15.55%	-51407.5	5891.6	0.022	15.17%	-51517.4	4922.7	1.000	18.00%	-49559.9

Figure 4a: *Trends in unconstrained association models for OE*
Men, women, and working women separately

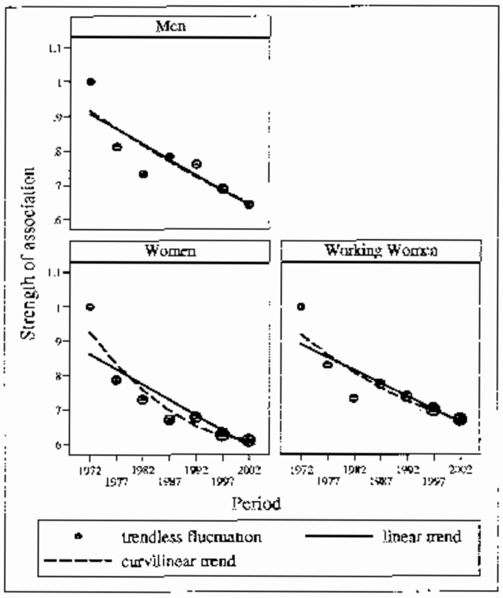


Figure 4b: *Trends in unconstrained association models for OD/E*
Men, women, and working women separately

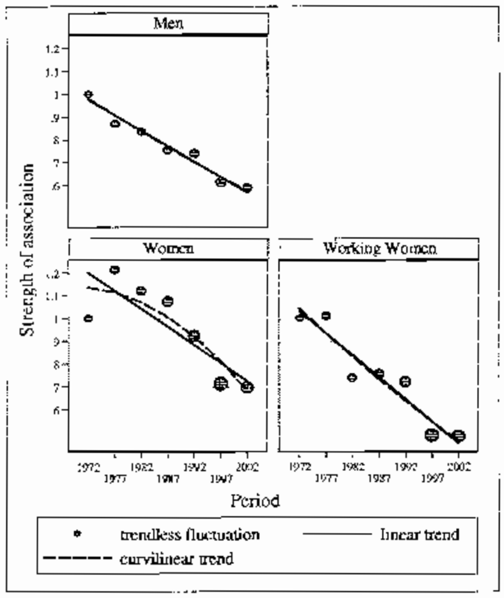
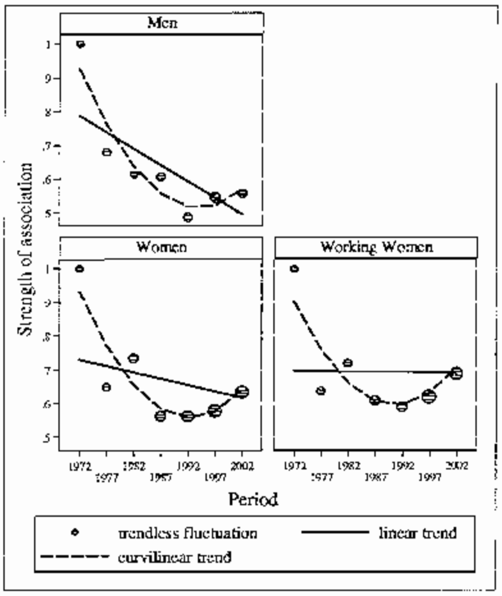


Figure 4c: *Trends in unconstrained association models for ED/O*
Men, women, and working women separately



In Panel B, we present the scaled association models. Ganzeboom & Luijkx (2004: 368-370) tested the equality in scalings for O, D, and E in the different relationships: O in OE and OD|E; D in ED|O and OD|E; and E in OE and ED|O. They concluded – for eight classes and four educational levels – that there were some significant asymmetries in the scalings, but that these did not need to be taken into account when modelling the partial relationships. We follow the same procedure (with thirteen classes and five educational levels) here. All occupational (origin and destination) scalings, as well as the educational scalings, are constrained to be equal between the OE, OD|E, and ED|O relationships (and between all periods).

In the first set of models, B1a-B1c, we combine trendless fluctuation in all three partial association parameters with a different parameterisation for the diagonal cells in the OD relationship. For the OD|E relation, trends need to be assessed separately in the general, off-diagonal, association parameter and in the overall diagonal density. We start again using models that have an unconstrained association parameter and first determine which trend model fits the diagonal densities best. The benchmark model B1a allows for free diagonal cells, which consumes a considerable number of degrees of freedom. Substituting this sequentially using a (uniform) trendless fluctuation over time for the diagonal cells (B1b), a curvilinear trend (B1c), a linear trend (B1d), and no trend at all (constant diagonals: model B1e) shows that an optimal fit is obtained by the linear speeification B1d for men and working women, and, for all women, model B1e is preferred by a small margin. This conclusion is congruent with the results of the bivariate analysis. The linear trend over time is – as expected – towards less association.

The next batch of models deals with the nature of the trend in the association coefficient, given that the diagonal density can be constrained to follow a linear trend. The comparison has the same structnre as the parallel exercise in Panel A: Models B2a-B2c constrain each of the components separately to follow a linear trend, and model B2d constrains all three to follow a linear trend. As before, we find that a linear specification is an improvement relative to free association for OE and OD|E, but not for ED|O or at least not for men and all women, and that the models with three linear constraints fits best of all. As we did in Panel A, we now investigate a potential curvilinearity of the trends.

In models B3a-B3c, we add a curvilinear term to the linear trends for each relationship separately and we then find again that the ED|O relation follows a curvilinear trend, whereas the other two do not. Model B3b is also over-all the best model, not only among the scaled association models, but also because it has a lower *bic* than the unconstrained association model. This holds true for men and working women; there is no significant development in the diagonals for all women. Figures 5a-5c present the patterns of the parrial scaled association models.

Figure 5a: *Trends in scaled association models for OE*
Men, women, and working women separately

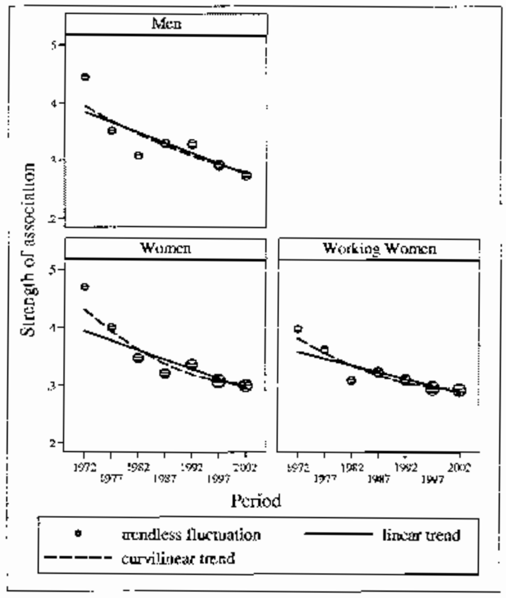


Figure 5b: *Trends in scaled association models for OD/E Men, women, and working women separately*

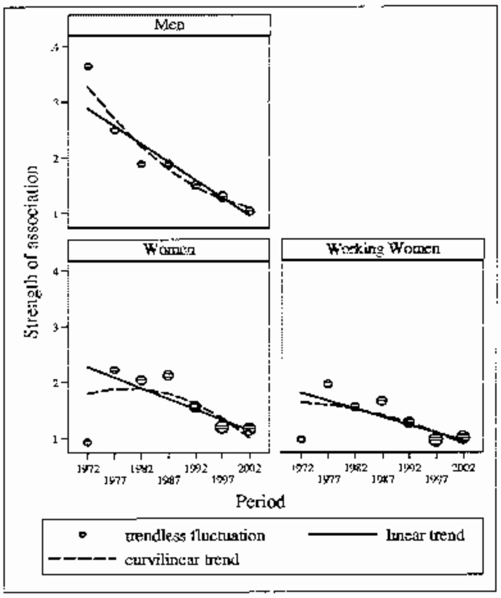
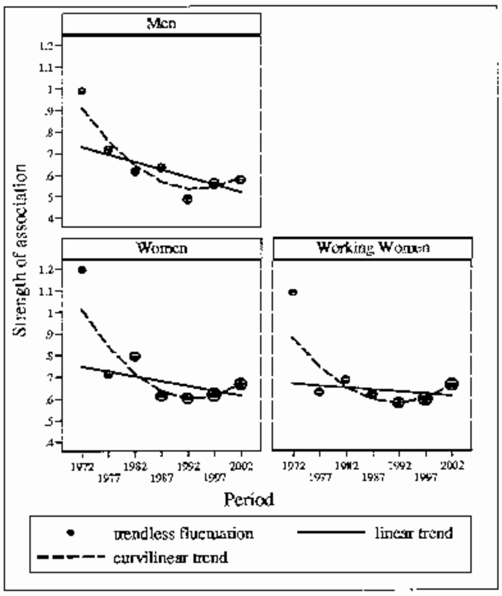


Figure 5c: *Trends in scaled association models for ED/O Men, women, and working women separately*



Conclusious and discussion

We investigated whether the trend towards more social fluidity, firmly established for the Netherlands hy previous research on intergenerational occupational prestige mobility in data collected between 1954 and 1993 (Ganzeboom & Luijkx, 1995) and on intergenerational occupational class reproduction in data collected between 1970 and 1999 (Ganzeboom & Luijkx, 2004), has continued into the first decade of the 21st century. To this end, the database was extended with a large volume of newly collected and newly harmonized data. The additional data constitute an expansion by about 30%. The added data are also of high quality, providing full and detailed coverage of all the relevant variables, and two of the added surveys have exceptionally high response rates by Dutch standards. We were also able to cast the data in more finely grained measures for occupational class and education. For occupational class, we used a 13-category version of the EGP typology. On top of the familiar 11 class categories, we divided the classes of lower and higher controllers into a managerial and professional segment each. Finally, for ednCation, we added the important distiuction between HBO (higher vocational training) aud WO (nniversity) to create a five-category education measure.

Despite the improved and expanded database, all conclusions from the previous analysis still hold, except one. These conclusions can be summarized as follows:

1. The long-term trend toward more social fluidity in bivariate intergenerational mobility continues right into the 21st century. There is no iudication of a slow-down or a reversal of the trend.
2. This long-term trend towards more social fluidity also holds for the two components of the status attainmeut model for which it is most expected: the influence of father's occupation on educational attainment and the direct influence of father's occupation on respondent's occupation (net of the effect via educational attainmeut).
3. We find no confirmation that the effect of education on occupation is still developing towards more social fluidity. This is the one exception to the eonclusions of the previous analysis. Our best-fitting model for this relationship shows that the net effect of education on occupation decreases in strength until around 1985 and then becomes stable at a considerably lower level than hetween 1970 and 1985.
4. Including more detail in the oecupational and ednCational classification helps to bring out the trends more clearly than before. Most of the newly distinguished occupational classes are distinct on the estimated scaled association dimension, whieh indicates that the mobility chances are different for all elasses. The most striking finding in this respect is that the distinction made between professionals and managers in EGP classes I and II is clearly verti-

cally ordered with respect to their mobility chances. Though still separated on the mobility dimension, professionals in both class I and class II (that might more aptly be referred to as semi-professionals) are further removed from the manual end of the mobility dimension than the two managerial segments. Whereas previous research suggested that EGP classes I and II are fairly close in social mobility, the findings of the present analysis show that a professional/managerial distinction is more important to mobility chances than the I/II (high/low) distinction. Much in line with this finding is the clear separation between WO (university training) and HBO (higher vocational training), which corresponds to the professional/semi-professional distinction.

5. Our conclusions hold for both men and women, and for women they hold for both currently employed women and ever employed women. However, the trends towards social fluidity are less steep for women than for men. They are adequately described as a convergence between male and female mobility patterns, in the sense that women's social mobility pattern was traditionally more fluid than that of men, but the patterns for men and women have been developing towards the same level. It may be important to note that this is despite wide and persistent differences between men and women in occupational distributions. Some of the newly included categories in the EGP typology – in particular IIa (semi-professionals) and IIIb (routine sales and services workers) – remained primarily women's business throughout the period.
6. Our conclusions appear to be insensitive to the variations in data-collection design and response patterns that are particularly conspicuous among the newly added surveys for the 1999-2004 period. Two of the new surveys enjoyed much higher response rates than is customary in the Netherlands – but these two do not stand out in mobility patterns.

We checked our most striking conclusion – the levelling-off in the education-by-destination association – by reanalysing the data using the same occupational and educational categories as used by Ganzeboom & Luijkx (2004) and found that the trend rupture is indeed due to the addition of the newer data, and not to the more detailed measures used here. However, when inspecting the dispersion in the educational distribution – the factor that Ganzeboom & Luijkx (2004) point to in order to explain the trend toward less association between education and occupation–, we find no parallel levelling-off of the trend. A more definitive analysis of the trend in this association would require a cohort perspective, such as applied by Rijken (1999), which is beyond the scope of this study.

The Netherlands appears to be once more a country that confirms the classical insights from modernization theory, once espoused by Blau & Duncan (1967). In modernizing societies, ascriptive patterns of status attainment give way to selection by achievement. The trend towards less ascription, i.e., the influence of father's class on educational and occupational attainment, has been slow, but extremely clear and does not seem to have halted at the onset of the 21st century, despite the tendencies towards more social inequality experienced by Dutch society in this period. By contrast, the strong association between education and occupation – which represents the achievement principle – remains, and the findings of the present analysis suggest that it has indeed been stable for the last 20 years.

Notes

1 In one study (LSO86), the distinction between HBO and WO had to be imputed (using father's and mother's education as predictor variables). Although leaving the study out would not have changed any of our results substantively, we judged that it would be better to leave it in.

2 Note that the scaled uniform association parameters also imply that the expected densities are highest in the diagonal cells, since $\mu_i - \nu_i = 0$ on the diagonal. The diagonal parameters of the model, therefore, have a partial interpretation: they model density over and above the high density already expected under the scaled association model.

3 Note that our standardization constraint differs from the usual convention of 1.0 variance in the scalings. The particular advantage of our choice is that the scaled uniform association coefficient maps into the metric of the Pearson's correlation coefficient (-1.00 .. 1.00) (Goodman, 1981). Goodman shows that if the distribution of counts fits a bivariate normal distribution, the estimated value of φ under this choice of constraint is numerically identical to Pearson's correlation coefficient.

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Appendix: Data sources for men, women and women in the labour force in the Netherlands 1970-2003

Nr.	Acronym	Abbreviated study title	Archive	Occupation code	No. of digits	total (N)	Men (N)	Women (N)	Working women (N)	Response rate
1	net70	National Election Study 1970-1973	P0136	cbs60	4	899	746	153	148	74
2	net71	Parliamentary Election Study 1971	P1153	cbs7184	4	826	688	138	110	76
3	net74p	Political Action Survey I, 1974	P0322	isco68	3	628	348	280	107	67
4	net76j	Justice of Income Survey 1976	P0653	cbs7184	4	607	519	88	88	69
5	net77	CBS Life Situation Survey 1977	P0328	cbs7184	4	1653	1290	363	309	70
6	net77e	Parliamentary Election Study 1977	P0354	cbs7184	4	625	508	117	94	64
7	net79p	Political Action Survey II, 1979	P0823	cbs7184	4	1049	579	470	188	65
8	net81e	Parliamentary Election Study 1981	P0350	cbs7184	4	1253	632	621	230	83
9	net82e	Parliamentary Election Study 1982	P0633	cbs7184	4	911	484	427	161	74
10	net82n	National Labour Market Survey, 1982	P0748	F: cbs71	2	1681	839	842	315	na
11	net82u	National Prestige and Mobility Survey, 1982	P0839	cbs7184	4	591	411	180	67	60
12	net85o	Strategic Labour Market Survey, 1985	P1462	cbs7184	4	1437	967	470	358	41
13	net86e	Parliamentary Election Study 1986	P0866	cbs7184	4	959	492	467	193	83
14	net86l	CBS Life Situation Survey 1986	P1454	cbs84a	2	1410	971	439	439	57
15	net87i	Cultural Changes [ISSP] 1987	P0947	cbs7184	4	1080	519	561	164	82
16	net87j	Justice of Income Survey 1987	P1194	cbs7184	4	576	296	280	114	60
17	net87s	Primary and Social Relationships 1987	P1172	cbs7184	4	629	320	309	127	78
18	net88o	Strategic Labour Market Survey, 1988	P1462	cbs7184	4	572	380	192	173	na
19	net90o	Strategic Labour Market Survey, 1990	P1462	cbs7184	4	652	430	222	179	na
20	net90s	Social and Cultural Trends, 1990	P1100	cbs7184	4	1689	896	793	394	48
21	net91j	Justice of Income Survey 1991 [ISJP]	P1207	isco68	3	681	395	286	134	na
22	net92f	Netherlands Family Survey I, 1992-93	P1245	cbs7184	4	1470	753	717	337	43
23	net92o	Strategic Labour Market Survey, 1992	P1462	cbs7184	4	696	442	254	216	na
24*	net92t	Life-event History of the Dutch Population, 1992	P1107	cbs7184	4	1514	796	718	251	na
25	net94e	Parliamentary Election Survey, 1994	P1208	cbs7184	2	1121	585	536	204	52
26	net94h	Households in the Netherlands pilot, 1994	P1306	cbs7184	4	820	425	395	245	58
27	net94o	Strategic Labour Market Survey, 1994	P1462	cbs7184	4	633	381	252	209	na
28	net95h	Households in the Netherlands, 1995	P1458	cbs7184	4	1638	850	788	476	40
29*	net95s	Social and Cultural Trends, 1995	P1336	cbs7184	4	1500	735	765	453	52
30	net96	Social Inequality in the Netherlands, 1996	P1370	cbs7184	4	555	285	270	199	36
31	net96o	Strategic Labour Market Survey, 1996	P1462	cbs7184	4	990	586	404	342	na
32	net98	Social and Economic Attitudes, 1998	P1435	cbs7184	4	600	369	231	162	31
33	net98e	Parliamentary Election Study 1998	P1416	sbc92	5	1057	497	560	327	50
34	net98f	Netherlands Family Survey II, 1998	P1583	cbs7184	4	1727	871	856	509	47
35	net98o	Strategic Labour Market Survey, 1998	P1462	cbs7184	4	1625	937	688	581	na
36	net99	Use of Information Technology, 1999	P1571	cbs7184	4	1710	1017	693	428	43
37*	net99a	Amenities and Services Utilisation Survey, 1999	P1513	cbs7184	4	4875	2322	2553	1580	70
38*	net99i	International Social Survey Programme, 1999	tba	isco-88	4	847	456	391	266	na
39*	nex00f	Netherlands Family Survey III, 2000	P1609	cbs7184	4	1201	615	586	387	41
40*	nex00s	Social and Cultural Trends, 2000	P1556	cbs7184	4	811	416	395	282	44
41*	nex02e	European Social Survey, 2002	NSD1000	isco-88	4	1473	671	802	508	65
42*	nex03	Netherlands Kinship Panel Study, 2003	tba	sbc92/cbs7184	4/5	5899	2452	3447	2176	42
43*	nex03f	Netherlands Family Survey IV, 2003	tba	cbs7184	4	1495	754	741	542	na
	TOTAL					54665	29925	24740	14772	

NOTES: For the meanings of the study acronyms the reader is referred to http://www.fsw.vu.nl/ismf. Archive number refer to Steinmetz Archives Catalogue. Tba = to be archived.

*: denotes studies added to the data base relative to the analysis of Ganzeboom & Luijkx (2004). Counts for some of the studies differ from the earlier study due to improved coding and harmonization of the data. Note that we dropped net96c due to incomparability of the expanded occupation codes.

cbs60	Dutch Census Classification 1960
cbs7184	Dutch four-digit Census Classification 1971/1984 (default)
cbs84a	Aggregated version of cbs7184
sbc92	CBS Standard Occupational Classification 1992
isco68/88	1968/1988